

PSURGE 30.2

Modular 30kV / 30kA Surge Test System

■ **This test system** is used to perform high energy surge tests. Energy surges are generated by atmospheric lightning in power circuits. A surge is characterized by high energy and relative fast front times. Pulse durations are widely variable as are the coupling paths.

The PSURGE 30.2 is designed to generate a **broad variety of surge impulses**. Impulse modules can be exchanged quickly allowing PSURGE 30.2 to be used for different applications. Impulse module type is detected by the system software.

The built-in **microprocessor control unit** serves as user interface and control all the internal functions. When adding the remote control option, it is possible to use the PSURGE 30.2 with the WinPATS control and reporting software.

The integration in the WinPATS **control and reporting software** package enhances an efficient set-up and operation of this test system. Most importantly, the test load can be transferred to a computer freeing valuable resources. An integrated test cabinet provides optimal and safe connections for component testing.



PSURGE 30.2 generator rack (left) with FPSURGE 3010 coupling network (right)

■ Features

- ☑ Up to **30kV** impulse voltage
- ☑ Up to **30kA** impulse current
- ☑ automatic **polarity switching**
- ☑ Peak voltage and current monitoring
- ☑ Integrated large **test cabinet**
- ☑ **Remote control** option

■ Benefits

International application – Specifically designed to meet and exceed the requirements of IEC, EN, ITU and ANSI tests for power line applications.

Modular system - The impulse circuit can be changed quickly and easily by the user. Only one generator is needed for up to four impulse shapes.

Safe and Easy - The interlocked test cabinets allow your operators to test safely and easily. The warning lamp indicates the system status clearly.

Mains superposition – The combination wave impulse can be superimposed onto mains lines with the FP-SURGE 3010 according ANSI C62.45. This allows a surge test on a powered EUT.

Sturdy and Reliable – System components are selected for reliability and high impulse duty cycle.

■ Applications

- ☑ Combination wave according IEC 61000-4-5
- ☑ Safety tests as defined e.g. in IEC 61010
- ☑ Telecom system tests according ITU K series
- ☑ Surge tests as described e.g. in IEC 60060-1 and ANSI C62.41
- ☑ Component test as described e.g. in IEC 60664 and IEC 61643-1
- ☑ Many IEC & EN Product standards

■ Technical Specifications

PSURGE 30.2 Mainframe

Charging voltage range	3...33kV	Test cabinet	39 x 29 x 32 cm (W x D x H)
Capacitors	9uF / 36uF	HV switch	triggered spark gap
Stored energy	5kJ at max. charging voltage	Impulse polarity	positive, negative, alternating
HV output	terminals inside the test cabinet	Impulse circuit	floating, max. voltage between common and ground 500V AC
Power mains	208, 230 or 240V 50/60Hz, 1800VA	External synchronisation	0°...360° in 1° steps

Weights and Dimensions (W x D x H, net weight)

PSURGE 30.2	60 x 100 x 190 cm	approx. 320 kg
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Impulse Module PS30-CW

Impulse type	Combination wave	Output impedance	2 Ohm
Voltage front time	1.2us ±30%	Current front time	8us ±20%
Voltage decay time	50us ±20%	Current decay time	20us ±20%
Voltage undershoot	≤30%	Current undershoot	≤30%
Voltage amplitude range	3...30kV	Current amplitude range	1.5...15kA
Impulse repetition	up to 6 impulses per minute at max. voltage		

Impulse Module PS30-8x20

Impulse type	current	Output impedance	0.5 Ohm
Voltage front time	not defined	Current front time	8us ±20%
Voltage decay time	not defined	Current decay time	20us ±20%
Undershoot	not defined	Undershoot	≤20%
Charging voltage range	3...15kV	Current amplitude range	6...30kA
Impulse repetition	up to 2 impulses per minute at max. current		

Impulse Module PS30-10x350

Impulse type	current	Output impedance	12 Ohm
Voltage front time	not defined	Current front time	10us ±20%
Voltage decay time	not defined	Current decay time	350us ±20%
Charging voltage range	3...15kV	Current amplitude range	240...1200A
Impulse repetition	up to 2 impulses per minute at max. current		

Impulse Module PS30-10x1000

Impulse type	current	Output impedance	37 Ohm
Voltage front time	not defined	Current front time	10us ±20%
Voltage decay time	not defined	Current decay time	1000us ±20%
Charging voltage range	3...15kV	Current amplitude range	80...400A
Impulse repetition	up to 2 impulses per minute at max. current		

Coupling and decoupling network FP-SURGE 3010

Impulse shape	Combination wave only	Imp. amplitude	30kV / 15kA
EUT line voltage	480V AC 110V DC	Coupling modes	Line to neutral Line or neutral to ground Line and neutral to ground
EUT current	10A	Coupling capacitors	2x9uF / 1x18uF
Test cabinet	40 x 40 x 80 cm (W x D x H)	Residual voltage at EUT line input	15% of the applied test voltage, limited to approx. 1200V

Weights and Dimensions (W x D x H, net weight)

FP-SURGE 3010	60 x 100 x 190 cm	approx. 250 kg
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■ PSURGE 30.2 System Ordering Information Impulse module back pack

PSURGE 30.2 Mainframe including users manual, mains cable (country specific), warning lamp, emergency stop switch
Art. No. 249320

PS30-CW combination wave module
Art. No. 249321

PS30-8x20 current impulse module 8/20us
Art. No. 249322

PS30-10x350 current impulse module 10/350us
Art. No. 249323

PS30-10x1000 current impulse module 10/1000us
Art. No. 249324

FP-SURGE 3010 Single phase CDN including users manual, mains cable (country specific), cable set, cables to connect PSURGE 30.2
Art. No. 249452



■ Options and Accessories

- EUT-OPT.1 Optical fiber for EUT failed input
Art. No. 249449
- P90-Opt.2 Optical fiber link for RS-232. Needed for remote control of the PSURGE 30.2.
Art. No. 249225
- WinPATS Control and reporting software. Runs under Windows 98
Art. No. 249309

Impulse display and monitor outputs



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